

Remarks

Applicants respectfully request reconsideration of the present U.S. Patent application as amended herein. Claims 1, 5, 6, 8, 13, 15, 18, 20, 22-24 and 26 have been amended. Claims 2-4, 7, 17 and 25 have been canceled. No claims have been added. Thus, claims 1, 5, 6, 8-16, 18-24 and 26 are pending.

CLAIM REJECTIONS – 35 U.S.C. § 102(b)

Claims 1-11, 13-19 and 24-26 were rejected as being anticipated by U.S. Patent No. 5,131,013 issued to Choi (*Choi*). Claims 2-4, 7, 17 and 25 have been canceled. Therefore, the rejection of claims 2-4, 7, 17 and 25 is moot. For at least the reasons set forth below, Applicants submit that claims 1, 5, 6, 8-11, 13-16, 18, 19, 24 and 26 are not anticipated by *Choi*.

Claim 1 recites:

- extracting data from a data stream formatted according to a synchronous network protocol;
- storing the extracted data in a buffer based on a first timing signal associated with the data stream;
- reading the extracted data from the buffer based on a second timing signal associated with a plesiochronous network protocol;
- generating a phase difference signal corresponding to a phase difference between the first timing signal and the second timing signal;
- filtering the phase difference signal in a synchronous domain; and
- generating stuff bits for a data stream according to the plesiochronous network protocol based on at least a non-linear function of a phase difference between the phase difference signal and the rate at which stuff bits are generated.

Thus, Applicants claim generating a phase difference signal that is filtered in the synchronous domain and stuff bit generation that has a non-linear relationship with the

phase difference signal. Claim 24 similarly recites generating a phase difference signal that is filtered in the synchronous domain and stuff bit generation that has a non-linear relationship with the phase difference signal.

Choi discloses a digital low-pass filter with a transfer function that is non-linear. See, for example, col. 6, lines 67-68 and the equation at the top of column 7. However, the non-linear relationship recited in the claims is between the filtered phase difference signal and the stuff bit generation. Therefore, *Choi* cannot anticipate the invention as claimed in claims 1 and 24.

Claims 5, 6 and 8-11 depend from claim 1. Claim 26 depends from claim 24. Because dependent claims include the limitations of the claims from which they depend, Applicants submit that claims 5, 6, 8-11 and 25 are not anticipated *Choi*.

Claim 13 recites:

- a buffer to store data extracted from a data stream formatted according to a synchronous network protocol, wherein the extracted data is stored in the buffer in response to a first timing signal associated with the data stream and the extracted data is read from the buffer in response to a second timing signal associated with a plesiochronous network protocol;

- a phase detector coupled to receive the first timing signal and the second timing signal to determine a phase difference between the first timing signal and the second timing signal and to generate a phase difference signal;

- a filter coupled to sample the phase difference signal in response to the first timing signal and to generate a phase metric signal based on the sampled phase difference signal and to filter then phase metric signal in a synchronous domain; and

- a stuff rate generator coupled to receive the filtered phase metric signal to generate a stuff rate signal based on the filtered phase metric signal, wherein a relationship between the phase metric signal and the stuff rate signal is non-linear.

Thus, Applicants claim an apparatus that generates a phase difference signal that is filtered in the synchronous domain and stuff bit generation that has a non-linear relationship with the phase difference signal.

As discussed above, *Choi* does not disclose a non-linear relationship between the filtered phase difference signal and the stuff bit generation. Therefore, *Choi* cannot anticipate the invention as claimed in claim 13.

Claims 14-16, 18 and 19 depend from claim 13. Because dependent claims include the limitations of the claims from which they depend, Applicants submit that claims 14-16, 18 and 19 are not anticipated *Choi*.

CLAIM REJECTIONS – 35 U.S.C. § 103(a)

Claim 12 was rejected as being unpatentable over *Choi* in view of U.S. Patent Publication No. 2002/0191724 of Bleisteiner (*Bleisteiner*). Claim 12 depends from claim 1, which is discussed above. *Bleisteiner* is cited to teach a FIFO buffer. However, *Bleisteiner* does not cure the deficiencies of *Choi* set forth above. Therefore, no combination of *Choi* and *Bleisteiner* can teach or suggest the invention as recited in claim 12.

Claims 20-23 were rejected as being unpatentable over *Choi* in view of U.S. Patent Publication No. 2004/0120360 of Tanis (*Tanis*). For at least the reasons set forth below, Applicants submit that claims 20-23 are not rendered obvious by *Choi* and *Tanis*.

Claim 20 recites:

a switch fabric;

a buffer to store data extracted from a data stream formatted according to a synchronous network protocol, wherein the extracted data is stored in the buffer in response to a first timing signal associated with the data stream and the extracted data is read from the buffer in response to a second timing signal associated with a plesiochronous network protocol;

a phase detector coupled to receive the first timing signal and the second timing signal to determine a phase difference between the first timing signal and the second timing signal and to generate a phase difference signal;

a filter coupled to sample the phase difference signal in response to the first timing signal and to generate a phase metric signal based on the sampled phase difference signal and to filter then phase metric signal in a synchronous domain; and

a stuff rate generator coupled to receive the filtered phase metric signal to generate a stuff rate signal based on the filtered phase metric signal, wherein a relationship between the phase metric signal and the stuff rate signal is non-linear.

Thus, Applicants claim a system that generates a phase difference signal that is filtered in the synchronous domain and stuff bit generation that has a non-linear relationship with the phase difference signal.

As discussed above, *Choi* does not disclose use of a non-linear relationship as claimed. *Tanis* is cited to teach a switching fabric. See Office Action at page 7. However, *Tanis* does not cure the deficiencies of *Choi*. Therefore, no combination of *Choi* and *Tanis* can teach or suggest the invention as claimed in claim 20.

Claims 21-23 depend from claim 20. Because dependent claims include the limitations of the claims from which they depend, Applicants submit that claims 21-23 are not rendered obvious by *Choi* and *Tanis*.

CONCLUSION

For at least the foregoing reasons, Applicants submit that the rejections have been overcome. Therefore, claims 1, 5, 6, 8-16, 18-24 and 26 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application. Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,
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